Ordering number : EN 3353A

Monolithic Linear IC

No.3353A

SANYO

LA7956

Video Switch for TV / VCR Use

Features

- 4 inputs, 1 output, 75Ω termination, driver on-chip
- 6dB amp on-chip
- Excellent crosstalk characteristic
- Wide band

Maximum Ratings at Ta = 25°C

				unit
Maximum Supply Voltage	V7 max		14	V
Maximum Input Supply Voltage (1)	V4 max, V6 max V8 max, V9 max,		8	V
Maximum Input Supply Voltage (2)	V2 max, V3 max	V_{CC} = 14V	14	V
Maximum Output Current	I1 max		10	mA
Allowable Power Dissipation	Pd max	Ta ≦ 65°C	540	mW
Operating Temperature	Topr		−20 to +65	°C
Storage Temperature	Tstg		−55 to +150	°C

Operating Conditions at Ta = 25°C

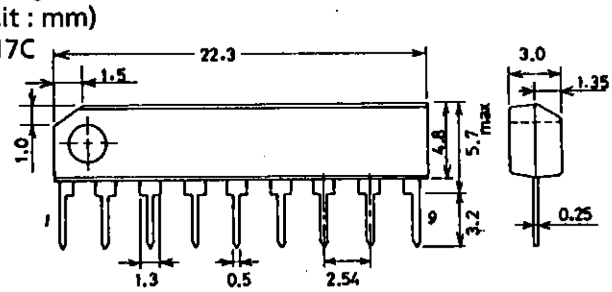
			unit
Operating Voltage Range	V_{CC} op	10.5 to 13.5	V
Recommended Supply Voltage	V_{CC}	12	V

Operating Characteristics at Ta = 25°C, V_{CC} = 12V

			min	typ	max	unit
Quiescent Current	I_{CC}		15	21	30	mA
Input Bias Voltage	V4, V6, V8, V9		3.5	3.8	4.1	V
Output Bias Voltage	V1		4.6	6.1	7.6	V
Output DC Offset Voltage	V_{OS}	(Note 1)	−50	0	+50	mV
Control Threshold Voltage	V2H, V3H,		2.3			V
	V2L, V3L				0.7	V
Control Input Current	I2, I3		−20	−6		μA
Voltage Gain	GV	f = 1MHz, V_{IN} = 2Vpp (Note 1)	5.6	6.1	6.4	dB

Continued on next page.

Package Dimensions
(unit : mm)
3017C



SANYO : SIP9

Continued from preceding page.

			min	typ	max	unit
Frequency Characteristic	GV-f	[0dB at f=100kHz (Note 1) [f=10MHz,V_{IN}=1Vpp	−3	0		dB
Output Dynamic Range	V_{DR}	f=15kHz,V_{IN}=1.5p-p (Note 1)	1.4	1.5		Vpp
Crosstalk (Note 2)	CT	V_{IN}=1Vp-p,f=3MHz (Note 1)	50 (48)	58 (55)		dB
		V_{IN}=1Vp-p,f=5MHz (Note 1)	45 (45)	55 (52)		dB

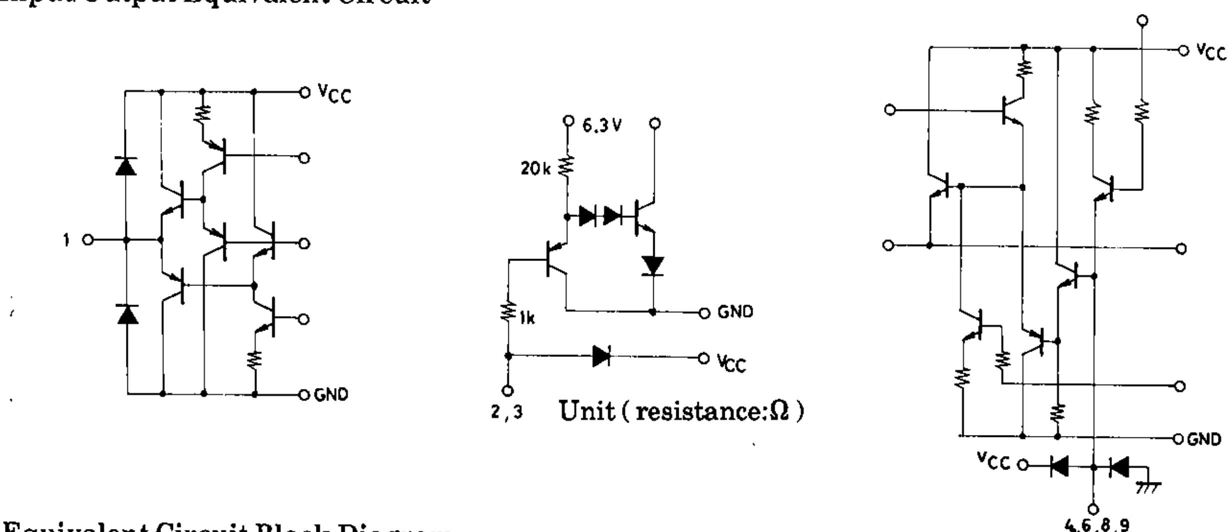
※ The current flowing into the IC is defined as positive and current from the IC is defined as negative.

Video Switch Truth Table

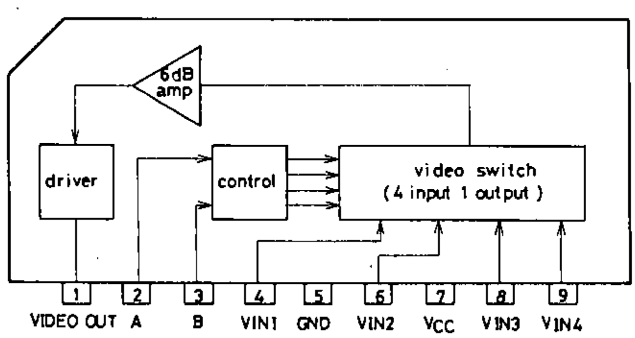
S2 (Pin 2)	S3 (Pin 3)	V_{IN}1 (Pin 4)	V_{IN}2 (Pin 6)	V_{IN}3 (Pin 8)	V_{IN}4 (Pin 9)
H	H	ON	OFF	OFF	OFF
L	H	OFF	ON	OFF	OFF
H	L	OFF	OFF	ON	OFF
L	L	OFF	OFF	OFF	ON

Note 1 : Refer to this Truth Table and make measurements by switching S2, S3.
Note 2 : ( ) : Crosstalk between pins 8 and 9

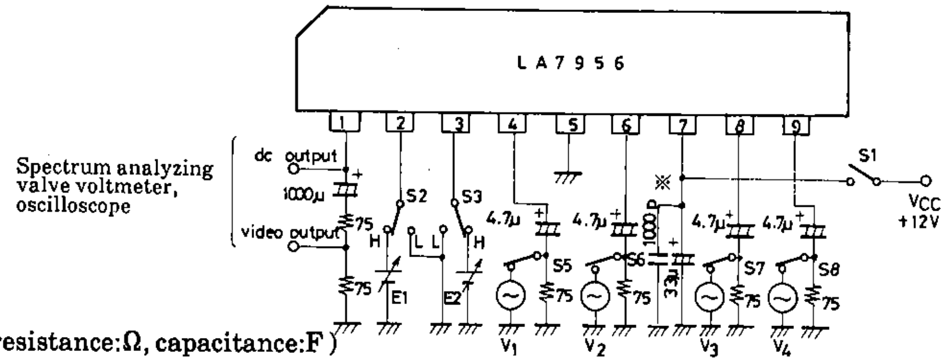
Input/Output Equivalent Circuit



Equivalent Circuit Block Diagram



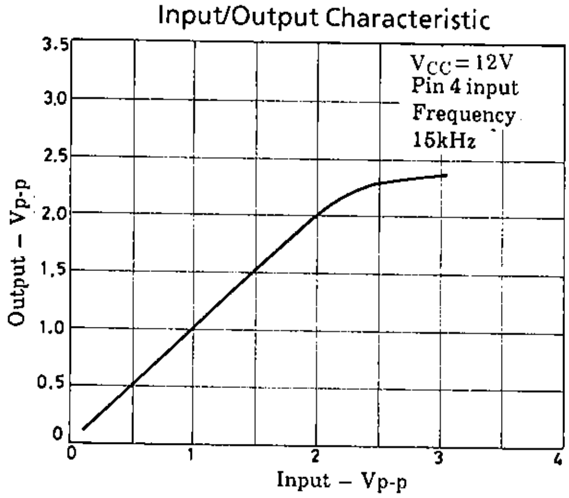
Test Circuit



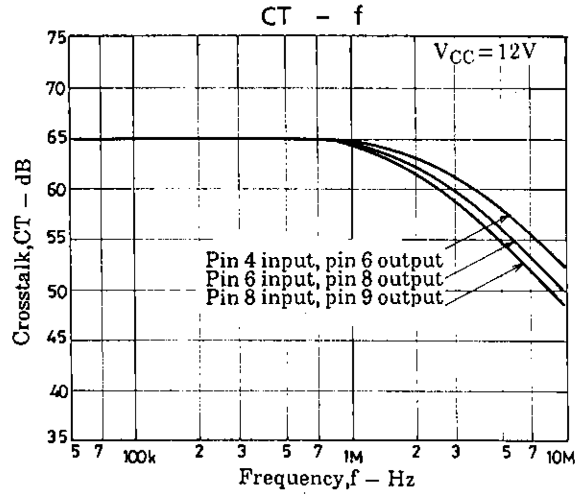
Unit (resistance:Ω, capacitance:F)

※ : Connect the bypass capacitor for V_{CC} as close to pin 7 as possible.

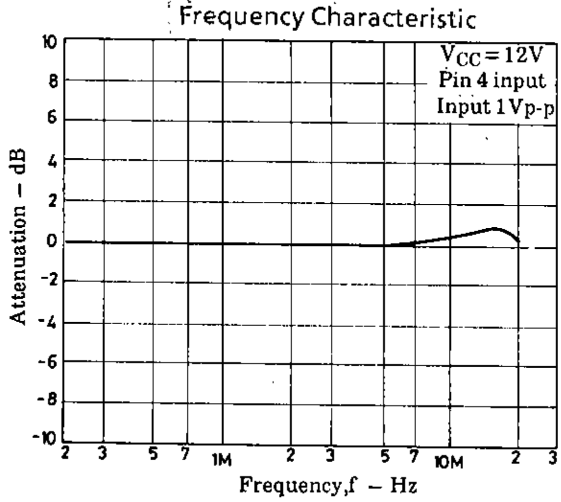
Input/Output Characteristic



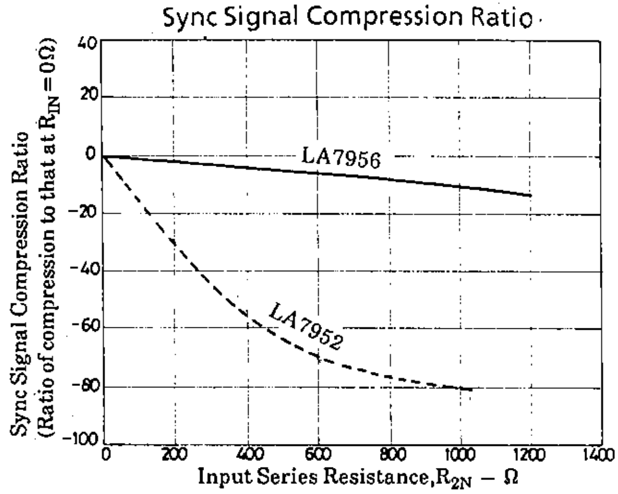
CT – f



Frequency Characteristic



Sync Signal Compression Ratio



Design Notes

An improvement in the DC clamp circuit has improved the sync signal compression attributable to the signal source impedance, but the response time of the DC clamp is made longer accordingly than that of the LA7952. Make adjustments by connecting a high resistance (several hundred kΩ) across input pin and GND (decreasing the resistance makes the sync signal compression larger).

This catalog provides information as of **December, 1996**. Specifications and information herein are subject to change without notice.